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ABSTRACT

A study was conducted to determine the general program information and the demographic status of female faculty in four-year technology education programs in the United States. Information was gathered through a literature review and a questionnaire mailed to all 70 technology education programs listed in the 1994 International Technology Education Association directory. A total of 55 questionnaires (78 percent) were returned. According to the responses, a majority of technology education programs have an enrollment of 21-50 students, with 60 percent of the programs having 15 percent or less female student representation. The overall number of female faculty members is low (44, or 8 percent), but the instructors are spread over the spectrum of programs. However, 57 percent of all female faculty are responsible for the three areas of graphic arts, training and development, and research or professional activities. A smaller number of female faculty members (23 percent) are involved in the teaching of manufacturing, technical drawing, and industrial safety. A high percentage of the female faculty members (43 percent) had the rank of assistant professor, but 39 percent of the female faculty members in technology education have the rank of associate or full professor. Comments from the chairs of technology education departments reflect a high level of satisfaction with female faculty members' performance and a willingness to have more women faculty members. (The survey instrument is appended.) (KC)

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ED 375 275

Demographic Survey of Female Faculty in Technology Education Programs

Paper Submitted to
Educational Resources Information Center (ERIC)

By

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INTRODUCTION

Female presence in higher education has increased significantly over the past decade (Waldenberg, 1981). A rising proportion of professional degrees were granted to women, and the number of university faculty members who are women also increased drastically. In general there has been a surge in female participation in advanced and professional programs, as well as an increase in the number of women at junior faculty level (Seppanen, 1983). In spite of this increase, a review of the literature reveals that women are still concentrated in positions of lower academic rank, mostly assistant professors. For example, in 1988 women held 35.2% of all assistant professor positions while they represented 19.5% of all faculty (Bentley, 1992).

This fact has effected the technology education programs nation wide. Many technology education departments have female faculty on staff. However, no concerted effort has been made to determine the number and rank of women in technology education.

This study was designed to provide information regarding the demographic status of female faculty in technology education departments. The information reported will serve as a base from which meaningful decisions about female faculty in technology education can be made and also provides data for future studies.

Purpose and Objective of the Study

The purpose of this study was to determine the general program information and the demographic status of female faculty in four-year technology education programs in the United States. All technology education chairs, listed in the 1994 directory of ITEA institutional members, were mailed a research questionnaire. The study was divided into two

general parts: program information, and demographic information of female faculty in technology education programs.

METHODS AND PROCEDURES

Over View of the Study

This project was conducted in two phases. The first phase involve a brief review of literature, development of and pilot testing of the questionnaire. The second phase included the mailing of the questionnaire, collection, analysis and reporting of the data.

Population and Survey Instrument

The population for the study included all technology education programs listed in the 1994 ITEA directory. Chairs of the technology education departments listed were mailed a copy of the questionnaire and a cover letter explaining the nature of the study. The chairs were asked to return the completed instrument; those chairs not returning the instrument were contacted by phone three weeks after the mailing.

Data Collection Analysis

All data was collected by a questionnaire (See Appendix I) containing fourteen different questions. The questionnaire contained fill-in information for obtaining data. The data were compiled and reported in tabular format.

The analysis of data included computation of the percent contribution of each respondent. A listing of all fill-in information was tabulated and reported as received. A discussion of all data, based on tabulated information, is reported in the summary. Based on this, data was tabulated and analyzed, which made the research study complete.

PRESENTATION AND DISCUSSION OF THE DATA

I. Program Information

Questionnaires Returned

A total of 70 technology education programs were mailed the first round of questionnaires. Of those mailed 64% (or 45) were returned initially. Approximately three weeks later a phone call was made to the remaining programs leading to an additional 14% (or 10) returned. Total questionnaires returned numbered 78% (or 55), representing approximately three-fourths of the technology education departments. A frequency distribution of technology education programs responding to the questionnaire is illustrated in table 1.

TABLE 1

Frequency Distribution of Technology Education Departments Responding to the Survey Instrument

	N	Round # 1	Round # 2	Total
TE Program	70	45 (64%)	10 (14%)	55 (78%)

Student Enrollment in Technology Education Programs

Question number 1 asked about student enrollment in technology education programs. Of the 55 respondents, 24% (or 13) have enrollment of 1 to 20 students, 44% (or 24) answered 21 to 50 students, 7% (or 4) reported 51 to 100 students, 14% (or 8) responded

101 to 150 students, and 4% (or 2) reported 151 to 200 students, 7% (or 4) departments did not answer to this question or did not have the program anymore. Table 2 presents this question.

TABLE 2

Student Enrollment in Technology Education Programs

Student Enrollment	Frequency	Percent
1 - 20	13	24%
21 - 50	24	44%
51 - 100	4	7%
101- 150	8	14%
151- 200	2	4%
No Answer	4	7%

Percentage of Female Students Compared to Male Students

Table 3 indicates the percent of female technology education students compared to male students. Fifty two technology education programs answered to this question. Reported data indicated that 43% (or 24) programs have 0% to 10% female student enrollment in their programs, 23% (or 13) programs reported 10% to 15% are female, 13% (or 7) responded 15% to 20% are female, 4% (or 2) indicated enrollment of 20% to 30%,

additional 11% (or 6) programs reported female student enrollment of 30% or more, and 6% (or 3) did not answer to this question.

TABLE 3

Percent of Female Students Compare to Male Students

Percent of Female Students	Frequency	Percent
0% - 10%	24	43%
10% - 15%	13	23%
15% - 20%	7	13%
20% - 30%	2	4%
Over 30%	6	11%
No answer	3	6%

Graduate Program

When was asked about graduate program, 74% (or 41) technology education programs indicated that they offer a graduate program, and 26% (or 14) reported that they do not offer a graduate program.

Total Number of Faculty Members

Question # 4 asked about the total number of faculty members in technology education programs. Table 4 illustrates the frequency and number of faculty members in technology education programs.

TABLE 4

Total Number of Faculty Members

Number of Faculty	Frequency	Percent
1 - 5	20	38%
6 - 18	14	27%
11 - 15	7	14%
16 - 20	6	12%
Over 20	5	9%

II. Demographic Information

This section of the study presents the demographic status of female faculty members in technology education programs. The total number of departments which have female faculty members were 40% (or 22) of the respondents. Total number of faculty members was reported to be 527, and the total number of female faculty reported was 44, which represented 8% of the total population. Table 5 presents the data regarding the number of male and female faculty in technology education programs.

Academic Rank of Female Faculty

Question # 11 asked about the academic rank of female faculty in technology education. The responses indicated that 24% (or 8) female faculty members were instructors, 49% (or 16) female faculty were reported as assistant professors, 12% (or 4)

TABLE 5

Number of Male and Female Faculty Members in Technology Education Programs

Number of Faculty	Frequency	Percent
Male Faculty Members	483	92%
Female Faculty Members	44	8%
Total	527	100%

TABLE 6

Academic Rank of Female Faculty Members

Academic Rank	Frequency	Percent
Instructor	8	18%
Assistant Professor	19	43%
Associate professor	12	27%
Full Professor	5	12%

members were associate professors, and 15% (or 5) female were reported as full professors. Table 6 shows academic rank of female faculty members in technology education programs.

Administrative Duties of Female Faculty Members

In this part of the survey, technology education program chairs were asked to identify female faculty member's administrative duties. Out of 44 female faculty members reported by department chairs, 18% (or 8) have administrative duties as follows: 1 female faculty member is a department chair, 3 are program directors, and 4 faculty members are program coordinators. The remaining 82% (or 36) female faculty members are teaching staff.

Primary Teaching Area of Female Faculty Members

Table 7 demonstrates the primary teaching areas of female faculty members. 25% (or 11) reported graphic arts or desktop publishing, 16% (or 7) responded training and development, another 16% (or 7) indicated research or professional, 9% (or 4) reported general technology education, 7% (or 3) indicated technical drawing, another 9% (or 4) programs reported the primary teaching area of their female faculty as industrial safety, 7% (or 3) programs indicated CAD/CAM robotics and 11% (or 5) programs responded other areas of teaching such as marketing, business, aviation, and environmental studies as the primary teaching area.

TABLE 7

The Primary Teaching Area of Female Faculty Members in Technology Education

Primary Teaching Area	Frequency	Percentage
Graphic Arts, Desktop Publishing	11	25%
Research, Professional	7	16%
Training and Development	7	16%
General Technology Education	4	9%
Technical Drawing	3	7%
Industrial Safety	4	9%
Manufacturing, CAM, CNC	3	7%
Other Areas (Marketing, Business, Aviation, and Environmental Study)	5	11%

SUMMARY AND CONCLUSIONS

Program Information

A majority of technology education programs have an enrollment of 21 to 50 students. Furthermore, the data collected reveal that 60% of technology education programs have 15% or less female student representation.

Demographic Information of Female Faculty Members

The demographic section of the study presents information about female faculty

members in technology education programs. Even though the overall number of female faculty members is low 8% (or 44), compared to total faculty members of 92% (or 527), the female faculty member representation in technology education departments is high and includes 40% of all the programs.

The data related to academic rank of female faculty members compared to other national studies of four-year programs suggests a high percentage of faculty members having the rank of assistant professor (43%). It also needs to be noted that the data reveals a rather high concentration of higher academic rank compared to national trend, since 39% of female faculty members in technology education have the rank of associate and full professor.

The primary teaching area of female faculty presents a high concentration of three general areas. The data reveals that 57% of all female faculty are responsible for areas of graphic arts, training and development, and research or professional activities. A smaller number of female faculty members are involved in teaching of manufacturing, technical drawing, and industrial safety (23%).

Comments from the chairs of technology education departments reflects high level of satisfaction with female faculty members' performance. They also would like to have more female faculty members on their staff. The chairs also commented that the number of female applicants applying to technology education departments is very low.

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Appendix I

Demographic Survey of Female Faculty in Technology Education Programs

I. PROGRAM INFORMATION:

1. What is the student enrollment in your technology education program? Please indicate. _____

2. How many of your students are male _____ , and how many are female _____ ?

3. Do you have a graduate program?

   Yes _____ No _____

4. What is the total number of faculty members in your department? Please indicate. _____

II. DEMOGRAPHIC INFORMATION:

5. Do you have any female faculty members in your department?

   Yes _____ No _____

If your answer is no please go to question number 14, if yes please continue.

6. What is the total number of female faculty members in your department? Please indicate. _____

7. What is the highest degree earned by your female faculty?

   _____ BA/BS
   _____ MA/MS/MEd
   _____ EdS
   _____ Ed.D.
   _____ Ph.D.
   _____ Other _____ (Specify)

8. In what major area of study was the degree granted? Please specify. _____

9. How long have your female faculty members been on staff? _____

10. Are any of your female faculty members tenured? _____

_____

11. What is the academic rank of your female faculty?

_____ Instructor
_____ Assistant Professor
_____ Associate Professor
_____ Full Professor

12. Do your female faculty members have other teaching or administrative duties? If yes please identify.

_____

_____

13. What is the primary teaching area of your female faculty? Please check as many as appropriate.

_____ Electronics
_____ Technical Drawing, CAD
_____ Manufacturing, CAM, CNC
_____ Power, Energy
_____ Wood Working
_____ Construction
_____ Graphic Arts, Desktop Publishing
_____ Plastics, Polymers
_____ Others, please list _____

14. General Comments:

Thank you for your time and for the information you provided. Please place the completed survey in the self addressed postage paid envelope provided and return to:

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Eastern New Mexico University
Station # 11
Portales, NM 88130